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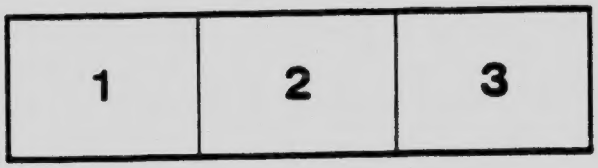

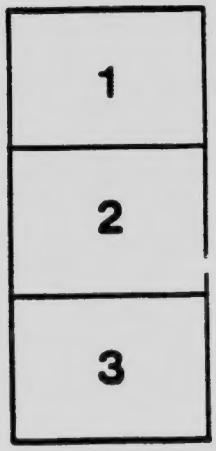

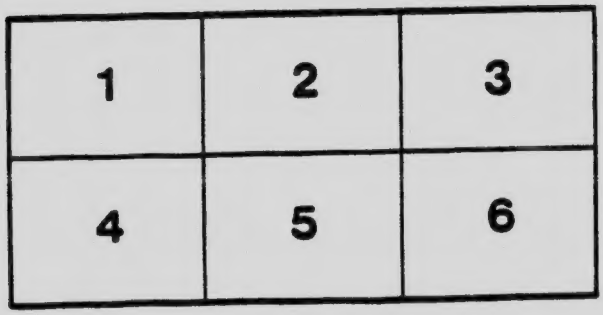

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THE PRODUCTION OF IRON AND STEEL IN CANADA

During the Calendar Year

1910

JOHN McLEISH, B.A.

Chief of the Division of Mineral Resources and Statistics.

OTTAWA
GOVERNMENT PRINTING BUREAU
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ADVANCE CHAPTER OF THE ANNUAL REPORT ON THE MINERAL PRODUCTION OF CANADA DURING THE CALENDAR YEAR, 1910.

(Tons used throughout this report are short tons of 2,000 pounds, except where otherwise stated.)

IRON AND STEEL.

INTRODUCTORY.

The iron and steel industry in Canada has had a fairly steady and continued development during the past few years. The serious depression under which this industry suffered in the United States in 1908 had comparatively little effect in Canada although there was a general falling off in output during that year. The production of 1909, however, greatly exceeded that of 1907, while the year 1910 again shows a very substantial increase in the production of pig iron and steel over the year 1909. The actual shipments of iron ore, however, from Canadian mines in 1910, were less than in 1909, although greater than the 1908 shipments.

The total shipments of iron ore from mines in Canada in 1910 were 259,418 short tons; there were used in blast furnaces 1,548,226 tons of iron ore, and in steel furnaces 39,332 tons; 800,797 tons pig iron were made, a large part of which was used directly in the manufacture of steel, and a total of 822,284 tons steel ingots and castings were made.

As has been pointed out in previous reports, the development of iron ore mining in Canada has not kept pace with the growth of the metallurgical industry in iron and steel. The rate of production of iron ore has shown practically no increase during the past ten years, while the production of pig iron during the same period has increased nearly eight fold.

About 11 per cent, only, of the iron ore used in Canadian blast furnaces during 1910, was of domestic origin; of the coke used 49 per cent was either imported or made from imported coal, and 18 per cent of the limestone flux used was from sources outside of Canada. It is evident that this industry is now to a very large extent dependent upon imported raw materials.

The total production of iron ore in Canada to the end of 1910 has probably only slightly exceeded 5,250,000 tons, while the total consumption of ore in blast furnaces since 1886 has been 11,732,336 tons. During 1910 the tonnage of imported ores used was 1,377,035 which was derived chiefly from Newfoundland and the south shore of Lake Superior

The assistance granted by the Federal Government to the iron and steel industries in the form of bounties, ceased on December 31, 1910, with the exception of the bounty on steel rods which is being continued to June 30, 1911. The total amount of bounties paid from 1895 to December 30, 1910, was $16,485,078.

The accompanying table gives a summary of the chief statistics of production of iron ore, pig iron, and steel, while more detailed records will be found in subsequent pages.

Summary of Iron and Steel Statistics 1908, 1909, and 1910.

—	1908.	1909.	1910.
	Tons.	Tons.	Tons.
Iron ore shipped	238,082	268,043	259,418
Canadian iron ore charged to blast furnaces	209,266	257,502	171,191
Imported iron ore charged to blast furnaces	1,051,445	1,235,000	1,377,035
Iron ore charged to steel furnaces	(a)	(a)	39,332
Pig iron made	630,835	757,162	800,797
Pig iron exported	290	5,063	9,763
Pig iron imported	58,365	148,338	243,859
Pig iron consumption (calculated)	688,910	900,437	1,034,893
Pig iron used in steel furnaces	(a)	(a)	690,913
Steel ingots and castings made	588,763	754,719	822,284
Steel rails made	267,192	377,642	390,762
Canadian coke used in iron blast furnaces	492,076	412,016	491,281
Imported coke used in iron blast furnaces	325,670	507,255	476,838
Iron and steel imported (b)	1,079,000	565,740	979,939
Number of completed blast furnaces No.	16	16	17
Number of men employed in blast furnaces No.	1,380	1,486	1,463
Wages paid in blast furnaces $	750,224	879,429	1,006,727
Value of pig iron produced $	8,111,194	9,[illegible]1,864	11,245,622
Value of iron and steel goods exported (c) $	5,907,792	7,1[illegible]2,413	7,895,489
Value of iron and steel goods imported (d) $	61,819,698	40[illegible]3,431	59,952,197

(a) Not collected.
(b) Figures cover the fiscal year ending March 31 and include all iron and steel goods for which weights are given. For details see Table 20.
(c) Figures cover the calendar year. For details see Table 19.
(d) Figures cover the fiscal year ending March 31. For details see Tables 21 and 22.

IRON ORE.

The total shipments of iron ore from mines in Canada in 1910 were 259,418 tons valued at $574,362 at the shipping point, as compared with 268,043 tons valued at $659,316 in 1909, and 238,082 tons valued at $568,189 in 1908. Of the 1910 production 130,380 tons are classed as hematite, 127,768 as magnetite, and 1,270 tons as bog ore. Ontario is the largest producer, having shipped 231,445 tons or nearly 90 per cent of the total production. New Brunswick enters the list of producers with shipments of 5,336 tons from the mines near Bathurst. In Nova Scotia 18,134 tons were shipped from the Torbrook mines and in Quebec province, in addition to the bog ores, a small tonnage (3,233 tons) of titaniferous iron sands was shipped from the north shore of the St. Lawrence. Although no production of iron ore is credited to British Columbia, a shipment of a small barge load of copper iron ore was made from the Raven mine, Texada island, to Seattle, Wash.

The production by provinces during the past three years, was as follows:—

IRON.—TABLE 1.

Production of Iron Ore by Provinces, 1908-9-10.

Provinces.	1908.		1909.		1910.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$
New Brunswick	.....	.....	.....	.....	5,336	11,910
Nova Scotia	11,802	17,620	.....	.....	18,134	40,478
Quebec	10,103	22,094	4,150	5,508	4,503	8,252
Ontario	216,177	528,475	263,893	653,808	231,[illegible]	513,722
British Columbia	.....	.....	.....	.....	.....	.....
	238,082	568,189	268,043	659,316	[illegible]	574,362

The production during 1909 and 1910 classed as magnetites (including titaniferous iron sands and some ores with an admixture of hematite), hematites (including brown ores), and bog ores, was as follows:—

IRON.—TABLE 2.

Classified Production of Iron Ore, 1909-10.

Character of Ore.	1909.			1910.		
	Short Tons.	Value.	Per Ton.	Short Tons.	Value.	Per Ton.
		$	$ cts.		$	$ cts.
Magnetite	74,240	162,280	2 19	127,7[illegible]8	289,876	2 27
Hematite	190,473	492,348	2 58	130,380	281,090	2 16
Bog	3,330	4,688	1 41	1,270	3,402	2 68
	268,043	659,316	2 46	259,418	574,362	2 21

A record of the production by provinces in past years is shown in Tables 3 and 4. There was a considerable production in Ontario previous to 1886 which is not recorded.

IRON.—TABLE 3.

Production of Iron Ore by Provinces, 1886-1910.

Calendar Year.	New Brunswick.	Nova Scotia.	Quebec.	Ontario.	British Columbia.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1886	.....	44,388	.....	16,032	3,941	64.361
1887	.....	43,532	13,404	16,598	2,796	76,330
1888	.....	42,611	10,710	16,894	8,372	78,587
1889	.....	54,161	14,533	.....	15,487	84,181
1890	.....	49,206	22,305	.....	.....	76,511
1891	.....	53,649	14,380	.....	950	68,979
1892	.....	78,258	22,690	.....	2,300	103,248
1893	.....	102,201	22,076	.....	1,325	125,602
1894	.....	89,379	19,492	.....	1,120	109,991
1895	.....	83,792	17,783	.....	1,222	102,797
1896	.....	58,810	17,630	15,270	196	91,906
1897	.....	23,400	22,436	2,770	2,099	50,705
1898	.....	19,079	17,873	21,111	280	58,343
1899	.....	28,000	19,420	25,126	2,071	74,617
1900	.....	18,940	19,000	82,950	1,110	122,000
1901	.....	18,619	15,489	272,538	7,000	313,646
1902	.....	16,172	18,524	359,288	10,019	404,003
1903	.....	40,335	12,035	209,634	2,290	264,294
1904	.....	61,293	16,152	141,601	.....	219,046
1905	.....	84,952	12,681	193,464	.....	291,097
1906	.....	97,820	9,933	141,078	.....	248,831
1907	.....	89,839	12,748	207,769	2,500	312,856
1908	.....	11,802	10,103	216,177	.....	238,082
1909	.....	.....	4,150	263,893	.....	268,043
1910	5,336	18,134	4,503	231,445	.....	259,418

IRON.—TABLE 4.

Production of Iron Ore in Nova Scotia, 1876-1885.

Calendar Year.	Tons.	Calendar Year.	Tons
1876	15,274	1881	39,843
1877	16,879	1882	42,135
1878	36,600	1883	52,410
1879	29,889	1884	54,885
1880	51,193	1885	48,129

Nova Scotia.—The Torbrook mines were the only shippers during 1910, the quantity shipped being 18,134 tons in three cargoes to Philadelphia, Pa., Glasgow, Scotland, and Middlesborough, England, respectively. The ore is a hematite and the shipments averaged about 48 per cent metallic iron. The total quantity of ore mined during the year was 53,054 tons, a large part of which was in the stock piles at the mines at the close of the year.

Some development work was done at Arisaig, Antigonish county, by the Arisaig Iron Company, but no ore was shipped.

The blast furnaces at Sydney and North Sydney receive their ore supplies from Newfoundland chiefly. The two Canadian Companies operating at Wabana, shipped during the year 1,259,626 short tons of hematite ore averaging from 50 to 52 per cent iron: of which 808,762 tons were shipped to Sydney and 450,864 tons to the United States and Europe.

New Brunswick.—Shipments were made from the mines at Austin Brook, near Bathurst, to the extent of 5,336 tons, the ore being sent to Philadelphia. The ore is a magnetite with an intermixture of hematite, and the properties are being developed by the Canada Iron Corporation. About 24,515 tons of ore were mined during the year. Shipments are made from the Company's docks at Newcastle, at which there was a considerable tonnage in stock at the close of the year.

Quebec.—The iron ore production in Quebec in 1910 included 1,270 tons of bog ore shipped to Drummondville, and 3,233 tons of titaniferous magnetic sands shipped from St. Urbain, Champlain county, to the United States. In 1909 the shipments were 3,330 tons of bog ores and about 820 tons of titaniferous iron sands.

These titaniferous sands have been shipped largely for experimental purposes and a nominal value of $1.50 per ton has been placed upon the production, although the actual cost of placing the ore on board vessels was possibly several times this amount.

Ontario.—Shipments were made by four mines in this Province during the year, viz.: the Mayo, at Bessemer, Hastings county; the Moose Mountain, at Sellwood, 30 miles north of Sudbury; the Helen, north of Michipicoten, and the Atikokan, 130 miles northwest of Port Arthur, on the Canadian Northern railway. In addition to these a considerable tonnage of ore was reported as having been raised at the Wilbur mine in Lanark county, but no shipments were made.

The total shipments of ore during the year were 231,445 tons, valued at $513,722; as compared with shipments of 263,893 tons, valued at $653,808, in 1909.

British Columbia.—No regular shipments of iron ore were reported from the Province. Some prospecting work was done on the Raven mine on Texada island, and a small scow load of cupriferous iron ore shipped to Seattle, Wash., for experimental purposes.

Following is a list of the principal producers of iron ore in Canada:—

Canada Iron Corporation, Limited, Mark Fisher Bldg., Montreal.
E. H. Duval, Levis, Que., (Guay P. O.).
H. C. Bosse, 92 St. Peter St., Quebec, Que.
Joseph Bouchard, Baie St. Paul, Que.
The Canadian Iron Ore Co., 1231 St. Valier St., Quebec, Que.
Exploration Syndicate of Ontario, Limited, Wilbur, Ont.
The Lake Superior Power Company, Sault Ste. Marie, Ont.
Atikokan Iron Company, Port Arthur, Ont.

Moose Mountain, Limited Sellwood, Ont.

Dominion Bessemer Ore Company, Limited, 472 Bullitt Bldg., Philadelphia, Pa.

IMPORTS AND EXPORTS.

The Customs Department does not keep a separate record of the imports of iron ore into Canada, but as the imports are practically all used in blast furnaces the statistics of consumption of imported ores in these furnaces will serve the same purpose.

There were used in Canadian iron furnaces during 1910, 1,377,035 tons of imported iron ores, as compared with 1,235,000 tons in 1909. Increasing amounts of iron ores have been imported since 1896, the total quantity imported during the fifteen years being 8,898,121 tons.

According to United States reports of Commerce and Navigation there were exported to Canada during the twelve months ending June 30, 1910, 609,617 tons (2,000 pounds) of iron ore valued at $1,636,917, and during the previous year 449,755 tons (2,000 pounds), valued at $1,264,048.

The shipments from Newfoundland to Canada, during the calendar year 1910, were 808,762 tons, as compared with 697,068 tons during the year 1909.

There were exported during 1910 about 114,499 tons of iron ore, valued at $324,186, as compared with exports of 21,956 tons, valued at $61,954, in 1909.

The ores exported in 1910 were chiefly those from Torbrook, N.S., Bathurst, N.B., Moose mountain, Ont., and titaniferous iron sands from Quebec.

Annual statistics of exports are shown in the following tables:—

IRON.—TABLE 5.

Exports of Iron Ore, Calendar Years, 1893-1910.

Calendar Year.	Tons.	Value.	Calendar Year.	Tons.	Value.
		$			$
1893	2,419	7,590	1902*	428,901	1,065,019
1894	.....	21,294	1903*	368,233	922,571
1895	1,571	3,909	1904*	168,828	401,738
1896	1,033	1,911	1905*	168,289	407,881
1897	403	811	1906	74,778	149,177
1898	182	278	1907	25,901	45,907
1899	4,145	9,538	1908	(a)	.....
1900	5,527	13,511	1909	21,956	61,954
1901*	306,199	762,283	1910	114,499	324,186

*The export figures for the five years indicated are incorrect owing to a duplication of entries.
(a) The figures of the Trade Report for this year include ferro-products, and are, therefore, omitted.

IRON.—TABLE 6.

Exports of Iron Ore, Fiscal Years, 1879-1910.

Fiscal Year.	Tons.	Value.	Fiscal Year.	Tons.	Value.
		$			$
1879	3,562	7,530	1895	2,315	5,743
1880	30,524	76,474	1896	14	35
1881	44,677	114,850	1897	1,320	2,492
1882	43,835	135,463	1898	360	402
1883	44,914	138,775	1899	1,849	4,968
1884	25,308	66,549	1900	4,327	7,689
1885	54,367	132,074	1901*	58,401	150,657
1886	7,542	23,039	1902*	525,983	1,303,901
1887	23,345	71,934	1903*	293,510	733,230
1888	13,544	39,945	1904*	233,850	579,883
1889	24,752	60,289	1905*	224,908	540,909
1890	13,811	31,376	1906*	148,040	345,540
1891	14,648	32,582	1907†	34,191	65,367
1892	7,707	36,935	1908	26,310	46,686
1893	7,811	26,114	1909	3,933	71,663
1894	1,859	9,026	1910	31,535	80,540

*See foot-note to Table 5. †Nine months ending March 31, 1907.

IRON.—TABLE 7.

Imports of Iron Ore into the United States from Canada, 1893-1910.*

Year ending June 30.	Short. Tons.	Value.	Year ending June 30.	Short Tons.	Value.
		$			$
1893	7,706	17,186	1902	309,527	685,540
1894	301	756	1903	144,725	320,263
1895	2,681	10,114	1904	126,995	283,765
1896	39	142	1905	120,241	245,623
1897	2,535	5,243	1906	113,809	220,112
1898	1,313	2,904	1907	34,731	52,765
1899	2,585	5,120	1908	32,124	55,617
1900	4,477	5,550	1909	3,490	12,660
1901	34,453	76,159	1910	35,070	97,984

*Compiled from the 'Foreign Commerce and Navigation of the United States.'

PIG IRON AND STEEL.

An increase of 5·58 per cent is shown in the production of pig iron in Canada in 1910 over the production of 1909, as compared with an increase of 20 per cent in 1909 over that of 1908.

At the close of the year Canada had seventeen completed furnaces and two under construction, grouped in ten separate plants and operated by eight separate companies or corporations.

The total production in 1910 was 800,797 short tons (714,998 long tons), valued at approximately $11,245,622; as compared with 757,162 short tons (676,038

long tons), valued at $9,581,864, in 1909, and 630,835 short tons (563,246 long tons), valued at $8,111,194, in 1908. The Londonderry furnace was not in operation during either of the past two years. These figures do not include the output from electric furnaces making ferro-products which are situated at Welland and Sault Ste. Marie, Ont., and Buckingham, Que. Ferro-silicon was made at Welland during 1910, but the Sault Ste. Marie and Buckingham plants were not in operation during the year.

Of the total output of pig iron in 1910, 17,164 tons, valued at $333,956 or $19.78 per short ton, were made with charcoal as fuel, and 783,633 tons, valued at $10,911,674 or $13.92 per ton, with coke. The amount of charcoal iron made in 1909 was 17,003 tons, and in 1908, 6,709 tons; while the quantity made with coke in 1909 was 740,159 tons and in 1908, 624,126 tons.

The classification of the production in 1910 according to the purpose for which it was intended was as follows:—

Bessemer 219,492 tons, basic 425,400 tons, foundry (including miscellaneous) 138,741 tons.

The classification of the production in 1909 was:—

Bessemer 221,931 tons, basic 400,921 tons, foundry (including miscellaneous) 116,307 tons.

The American Iron and Steel Association reported the production of Bessemer pig iron in 1908 as 126,348 short tons, as against 173,499 tons in 1907; and the production of basic pig iron in 1908 as 375,659 short tons, as against 382,208 tons in 1907.

The total production of pig iron in 1910 and 1909 is shown by provinces in the following table, the average value per ton being also indicated. In the case of Nova Scotia a large proportion of the pig iron is directly converted to steel, and as a very small portion of the metal is sold as pig iron it is somewhat difficult to place a satisfactory valuation upon the output. For statistical purposes a value of $12 per short ton has been placed upon this production in 1910. The Quebec production is entirely charcoal iron, which has for many years commanded a high price.

IRON.—TABLE 8.

Production of Pig Iron by Provinces, 1909-10.

Provinces.	1909.			1910.			Percentage increase or decrease in quantity.
	Tons.	Value.	Value per Ton.	Tons.	Value.	Value. per Ton.	
		$	$		$	$	%
Nova Scotia	345,380	3,453,800	10 00	350,287	4,203,444	12 00	+ 1·4
Quebec	4,770	125,623	26 34	3,237	85,255	26 34	−32·1
Ontario	407,012	6,002,441	14 75	447,273	6,956,923	15 55	+ 9·9
Total	757,162	9,581,864	12 65	800,797	11,245,622	14 04	+ 5·8

A record of the production by provinces since 1887 is shown in Table 9. It will be observed that while the production in Nova Scotia has remained fairly constant during the past five years, the Ontario production has increased from 275,558 tons in 1906 to 447,273 tons in 1910. The proportions of the whole contributed by the several provinces were in 1910: Nova Scotia, 43·7 per cent; Ontario, 55·8 per cent, and Quebec, less than half of one per cent.

IRON.—TABLE 9.

Annual Production of Pig Iron by Provinces, 1887-1910.

Year.	Nova Scotia.		Ontario.		Quebec.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$		$
1887	19,320	250,000	.....	.....	5,507	116,192	24,827	366,192
1888	17,556	211,403	.....	.....	4,243	101,832	21,799	313,235
1889	21,289	383,202	.....	.....	4,632	116,670	25,921	499,872
1890	18,382	262,608	.....	.....	3,390	69,080	21,772	331,688
1891	21,353	309,527	.....	.....	2,538	59,374	23,891	337,901
1892	40,049	583,556	.....	.....	2,394	53,865	42,443	673,421
1893	46,472	553,408	.....	.....	9,475	236,875	55,947	790,283
1894	41,344	449,533	.....	.....	8,623	196,914	49,967	646,447
1895	35,192	417,083	.....	.....	7,262	169,653	42,454	586,736
1896	32,351	400,829	28,302	368,942	6,615	154,358	67,268	924,129
1897	22,500	230,000	26,115	291,466	9,392	217,235	58,007	738,701
1898	21,627	221,677	48,253	530,789	7,135	159,929	77,015	912,395
1899	31,100	404,300	64,749	808,157	7,094	164,849	102,943	1,377,306
1900	28,133	421,995	62,387	938,725	6,055	140,978	96,575	1,501,698
1901	151,130	1,764,017	116,371	1,599,413	6,875	149,493	274,376	3,512,923
1902	237,244	2,477,767	112,688	1,584,273	7,970	181,501	357,902	4,243,541
1903	201,246	2,186,273	87,004	1,345,464	9,635	210,973	297,885	3,742,710
1904	164,488	1,700,130	127,845	1,746,126	11,121	241,729	303,454	3,687,985
1905	261,014	2,440,722	256,704	3,868,197	7,588	166,267	525,306	6,475,186
1906	315,008	3,439,217	275,558	4,338,275	7,845	177,644	598,411	7,955,136
1907	366,456	4,211,913	275,459	4,581,309	10,047	232,004	651,962	9,125,226
1908	352,642	3,554,540	271,484	4,385,271	6,709	171,383	630,835	8,111,194
1909	345,380	3,453,800	407,012	6,002,441	4,770	125,623	757,162	9,581,864
1910	350,287	4,203,444	447,273	6,956,923	3,237	85,255	800,797	11,245,622

Pig Iron Prices.—With respect to prices of pig iron in Canada during 1910, we are indebted to a prominent firm of iron merchants in Montreal for the following information. It is practically impossible to give information respecting iron prices in detailed form since much depends on the quantity purchased, brand of iron, prevailing freight rate, etc.; nevertheless it may be said that good average brands of Scotch iron sold in Montreal during the first three months of 1910 at about $20 per gross ton. Later in the year, particularly after the opening of navigation, prices eased up somewhat and an average p[illegible] would be $19.50 per gross ton. On the other hand good foundry iron of E[illegible] manufacture could have been purchased during the early part of 1910 [illegible] $18 per gross ton, then shading down to $17.25 per gross ton during the summer months. There was little competition from Canadian made iron in the Montreal district during 1910 the Sydney furnaces not marketing anything there during that period.

In Toronto the situation was somewhat different. It costs approximately $2 per ton more to lay down Scotch and English iron at that point than it does in Montreal, and during the early part of the year such advance in price was obtained. Later in the year, however, the American situation seriously affected prices in Ontario, and United States pig iron competed very keenly in the Toronto-Hamilton district, practically cutting out Scotch and English iron and compelling the local furnaces to reduce their prices to an equivalent of $18.50 and down to $18, f.o.b. cars Toronto, for good average grades of foundry iron.

In Pittsburgh, Bessemer iron was quoted at $19 per gross ton in January, 1910, falling to $17.50 in March, $17 in May, $15.75 in June, and $15 from the latter part of August to the close of the year. Basic iron ruled from $1.75 to $2 per ton less.

The quantities of iron ore, coke, charcoal, limestone, etc., consumed in blast furnaces in 1909 and 1910, are shown as follows:—

IRON.—TABLE 10.

Ore, Fuel, and Flux Charged to Blast Furnaces, in Years 1909-10.

		1909.			1910.		
		Quantity.	Value.	Canadian and Imported.	Quantity.	Value.	Canadian and Imported.
			$	%		$	%
Canadian iron ore and mill cinder	Tons.	257,502	892,947	17	171,191	564,838	11
Imported iron ore	"	1,235,000	2,989,512	83	1,377,035	3,668,409	89
Canadian coke	"	412,016	1,339,032	45	491,281	1,596,664	51
*Imported coke	"	507,255	2,214,578	55	476,838	2,263,917	49
Charcoal	Bus.	1,779,258	170,050	.....	1,615,919	159,662	.....
Canadian limestone	Tons.	428,140	328,091	81	464,584	360,756	82
Imported limestone	"	97,936	83,091	19	104,771	85,636	18

*Including coke made from imported coal.

Previous to 1896 pig iron was made entirely from Canadian ore. Since that date, however, increasing quantities of imported ore have been used as well as imported fuels and fluxes, and in 1910 about 89 per cent of the ore charged, 49 per cent of the coke, and 18 per cent of the limestone, were imported. This condition is due largely to questions of cost and transportation affecting each furnace. The Newfoundland iron ores can be cheaply and conveniently laid down in Sydney, N.S.; in fact the iron industry here has been built up on the basis of these ores and of the local coal supplies. In Ontario, also, large quantities of imported ores are used. In 1910 the imported ores used in Ontario amounted to 681,918 tons and the Canadian ores 143,283 tons, the imported ores being derived from Michigan and Minnesota deposits: thus during 1910 about 83 per cent of the ore used in this Province was imported, as compared with 71 per cent in 1909

and about 67 per cent in 1908. The fuel used in Ontario was also [illegible] altogether imported as well as a portion of the limestone flux.

According to returns made to the Department of Trade and Commerce in connexion with claims for bounty, 84,759 tons only of the total pig iron production in Canada in 1910 were credited to Canadian ore and 659,891 tons to imported ore and bounty paid upon it as such. In 1909 bounty was paid upon 126,298 tons of pig iron from Canadian ore, and 607,718 tons from imported ore. No bounty is paid on the iron credited to the mill cinder, scale, etc., charged, so that the above figures do not represent the total output of the furnaces. Statistics of the quantities of ores, fuel, and flux charged to Canadian blast furnaces since 1887, are shown in the following table.

IRON.—TABLE 11.

Iron Ore, Fuel, and Flux Charged to Furnaces since 1887.

Calendar Year.	Iron Ore Charged.		Fuel Charged.			Limestone.
	Canadian.	Imported.	Charcoal.	*Coke from Canadian Coal.	Imported Coke.	
	Tons.	Tons.	Bus.	Tons.	Tons.	Tons.
1887	60,434	.....	940,400	33,581	.....	17,171
1888	54,956	.....	804,286	30,228	.....	16,857
1889	65,670	.....	755,800	36,333	.....	22,122
1890	57,304	.....	589,860	34,073	.....	18,478
1891	60,933	.....	441,812	32,796	.....	11,377
1892	96,948	.....	1,121,365	52,622	.....	22,967
1893	124,053	.....	1,302,720	65,332	.....	27,797
1894	108,871	.....	1,173,970	60,026	.....	35,101
1895	93,208	.....	789,561	51,629	.....	31,585
1896	96,560	46,300	756,600	50,067	33,990	37,462
1897	53,658	55,722	1,031,800	35,800	27,810	31,273
1898	57,881	77,107	836,400	31,952	50,407	33,913
1899	66,384	120,650	1,928,025	44,844	64,648	51,826
1900	71,341	112,042	1,799,737	45,021	59,345	52,966
1901	156,613	361,010	1,835 736	207,835	115,367	169,399
1902	125,664	559,381	2,146,623	362,208	112,314	293,504
1903	82,035	485,911	2,322,030	350,190	96,540	277,452
1904	180,932	454,671	3,477,470	257,182	130,210	211,278
1905	116,974	861,847	4,404,394	365,897	242,882	369,715
1906	221,733	982,740	2,168,476	462,672	304,676	456,036
1907	244,104	1,117,260	1,682,085	521,068	327,082	488,462
1908	209,266	1,051,445	1,121,990	492,076	325,670	483,065
1909	257,502	1,235,000	1,779,258	412,016	507,[illegible]55	526,076
1910	171,191	1,377,035	1,615,919	491,[illegible]31	476,838	569,355

*Includes for the first ten years small quantity of coal.

Of seventeen completed furnaces, six were in blast in 1910, for varying periods of time. The operating companies, with numbers and capacities of furnaces, were as follows:—

Dominion Iron & Steel Company, Sydney, C.B., one of the constituent companies of the Dominion Steel Corporation, Ltd.: four completed furnaces of 280 tons capacity each per day, operated throughout 1910, two for 365, one for 112

days, and the fourth for 255 days. A fifth furnace has been completed and will go into blast early in 1911, while the erection of a sixth furnace has been arranged for, the completion of which will give this Company a capacity of over 400,000 tons per annum.

Nova Scotia Steel and Coal Company, Limited, New Glasgow, N.S.: one furnace at Sydney Mines, C.B., of 200 tons capacity, operated 311 days. Furnace was blown out on May 1, when, according to the report of the General Manager, a new crucible jacket of 2½" plate, steel reinforced with cast-iron, water-cooled slabs 4½" thick, dovetailed into each other, new bosh jacket and mantel were installed; the furnace lined throughout, hot blast stoves, downcomers, gas-mains, boilers, blowing engines, and pumps were all overhauled and renewed where necessary. The furnace again went into blast June 24, and from this date to December 31, made an average daily output of 243 tons. For the same period, previous to relining, the average daily output was 160 tons.

Londonderry Iron & Mining Company, Limited, Londonderry, N.S.: one furnace of 100 tons capacity; idle throughout the year.

Canada Iron Corporation, Limited, Montreal, Que.: two small furnaces of seven and eight tons capacity, at Drummondville, Que., operated 272 days; one furnace of 25 tons daily capacity, at Radnor Forges, Que., operated 41 days during 1910; two furnaces of 125 tons and 250 tons at Midland, Ont., operated for 7 months and 4 months respectively.

Standard Chemical Company of Toronto, Deseronto, Ont.: one furnace with a daily capacity of 50 tons, operated for 253 days, during 1910.

Hamilton Steel & Iron Company (now the Steel Company of Canada, Ltd.), Hamilton, Ont.: two furnaces, one of 200 tons capacity, operated throughout 1910, a second furnace of 300 tons capacity, operated 329 days in 1910.

Algoma Steel Company, Limited, Sault Ste. Marie, Ont., a constituent Company of the Lake Superior Corporation: two furnaces at Steelton, near Sault Ste. Marie, of 250 tons capacity each, operated throughout the year. This Company also has under construction a 400 ton furnace, a 12" and 18" merchant mill, and a complete installation of by-product coking ovens (110 ovens, Koppers type, with capacity of 1,100 tons of coke per day).

The Atikokan Iron Company, Limited, Port Arthur, Ont.: one furnace of 100 tons capacity, operated for 8 months during 1910.

The total daily capacity of the seventeen completed furnaces is about 2,985 tons. The two furnaces approaching completion at the close of the year will increase this capacity to about 3,650 tons per day.

The average number of men employed in the blast furnace operations in 1910 is reported as 1,403 and the total wages paid $1,006,727. Of the seventeen completed furnaces eleven were in blast and six idle on December 31, 1910.

IMPORTS AND EXPORTS OF PIG IRON.

There has been comparatively little pig iron exported from Canada. During 1910, the exports were 9,763 tons valued at $296,310, or an average value per ton of $30.35. The exports during 1909 were 5,063 tons valued at $186,778, an

average of $36.89; while during 1908 the exports were 290 tons valued at $10,614, an average of $42.45 per ton. These exports probably include ferro-silicon as well as ordinary pig iron.

Considerable quantities of pig iron are annually imported into Canada. During the calendar year 1910, the imports of ordinary pig iron were 227,753 tons valued at $3,122,695, an average of $13.71 per ton, and of charcoal pig iron 16,106 tons, valued at $242,152, an average of $15.03 per ton; or a total importation of 243,859 tons valued at $3,364,847. During the calendar year 1909 the imports were: ordinary pig iron, 147,925 tons valued at $1,798,172, and charcoal pig iron, 413 tons valued at $5,727; and during the calendar year 1908, the imports were: ordinary pig iron 57,343 tons valued at $771,715, and charcoal iron 1,022 tons, valued at $18,818 The annual imports of these two classes of pig iron since 1880 are shown in the accompanying table, No. 12, the statistics being given therein for the fiscal year. The duty, or general tariff, on pig iron is $2.50 per ton.

IRON.—TABLE 12.

Annual Imports of Pig Iron Since 1880.

Fiscal Year.	Pig Iron.		Charcoal Pig Iron.		Total.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.
		$		$		$
1880, year ending June 30	(a) 23,159	371,956	.....	.....	23,159	371,956
1881 " "	(a) 43,630	715,997	.....	.....	43,630	715,997
1882 " "	56,594	811,221	6,837	211,791	63,431	1,023,012
1883 " "	75,295	1,085,755	2,198	58,994	77,493	1,144,749
1884 " "	49,291	653,708	2,893	66,602	52,184	723,010
1885 " "	42,279	545,426	1,119	27,333	43,398	572,759
1886 " "	42,463	528,483	3,185	60,086	45,648	588,569
1887 " "	46,295	554,388	3,919	77,420	50,214	631,808
1888 " "	(b)48,973	648,012	.....	.....	48,973	648,012
1889 " "	(b)72,115	864,752	.....	.....	72,115	864,752
1890 " "	(b)87,613	1,148,078	.....	.....	87,613	1,148,078
1891 " "	(b)81,317	1,085,929	.....	.....	81,317	1,085,929
1892 " "	(b)68,918	886,485	.....	.....	68,918	886,485
1893 " "	56,849	682,209	5,944	84,358	62,793	766,567
1894 " "	42,376	483,787	2,906	34,968	45,282	518,755
1895 " "	31,637	341,259	2,780	31,171	34,417	372,430
1896 " "	36,131	394,591	917	11,726	37,048	406,317
1897 " "	25,766	291,788	2,936	35,373	28,702	327,161
1898 " "	37,186	382,103	2,250	23,533	39,436	405,636
1899 " "	44,261	45..,911	1,955	19,123	46,216	472,034
1900 " "	49,767	811,490	1,816	38,736	51,583	850,226
1901 " "	35,293	548,033	190	7,121	35,783	555,154
1902 " "	39,978	585,077	38	726	40,016	585,803
1903 " "	91,730	1,338,574	882	16,352	92,612	1,354,926
1904 " "	62,515	894,728	.....	.....	62,515	894,728
1905 " "	71,005	857,879	.....	.....	71,005	857,879
1906 " "	96,797	1,401,047	.....	.....	96,797	1,401,047
1907, nine months ending March 31	150,127	2,280,860	30	675	150,157	2,281,535
1908, year ending March 31	210,053	3,448,125	2,237	45,475	212,290	3,493,600
1909 " "	57,669	857,357	922	16,575	58,591	873,932
1910 " "	158,910	2,118,445	596	8,690	159,506	2,127 135

(a) Comprises pig iron of all kinds.
(b) These figures appear in Customs reports under heading 'iron in pigs, iron kentledge, and cast-iron.'

IRON.—TABLE 13.

Annual Exports of Pig Iron, 1896-1910.

Calendar Year.	Tons.	Value.	Calendar Year.	Tons.	Value.
		$			$
1896	2,187	55,448	1903	4,400	78,382
1897	3,099	81,381	1904	21,016	200,363
1898	1,278	32,645	1905	866	22,284
1899	6,981	149,190	1906	305	7,429
1900	3,513	88,052	1907	439	13,504
1901	57,650	593,739	1908	290	10,614
1902	75,195	778,619	1909	5,063	186,778
			1910	9,763	296,310

World's Production.—The production of pig iron in other countries is given hereunder for the past five years, in order to show the relative position occupied by Canada in the production of this metal.

IRON.—TABLE 14.

Production of Pig Iron in Principal Countries of the World, from 1906 to 1910: metric tons.

—	1906.	1907.	1908.	1909.	1910.
United States	25,713,556	26,195,340	16,191,907	26,209,677	27,741,990
Germany	12,292,819	12,875,159	11,805,321	12,644,946	14,227,455
United Kingdom	10,347,385	10,276,689	9,202,280	9,685,045	10,380,799
France	3,314,162	3,590,235	3,400,771	3,573,848	4,032,459
Russia	2,691,606	2,823,309	2,805,384	2,874,822	3,042,302
Austria-Hungary	1,687,581	1,872,684	2,041,523	2,044,573	**
Belgium	1,375,775	1,406,980	1,270,050	1,616,370	1,803,500
Canada	542,875	591,456	572,290	686,893	726,478
Sweden	604,789	615,778	567,821	444,764	604,300
Spain	379,241	355,240	403,554	389,000	**
Italy	135,296	112,232	112,924	207,800	**
China	*34,305	*36,306	66,409	74,000	**
Japan	42,679	51,943	45,396	**	**
Australasia	.....	29,902	30,393	29,762	42,268

* Exports. ** Not available.

FERRO-PRODUCTS.

Ferro-silicon, ferro-chrome, ferro-phosphorus, etc., have been made in electric furnaces at Buckingham, Que., by the Electric Reduction Company, Limited; the furnaces, however, were not in operation during 1910. Ferro-silicon has also been made in electric furnaces at Sault Ste. Marie, and at Welland, Ont. The electric furnaces operated by the Electric Metals Company were in operation during 1910. These furnaces, constructed some three years ago, consist of three furnaces of from 1,000 to 1,500 horse-power each, the daily production being from 5 to 8 tons.

The imports of ferro-silicon, manganese, etc., during the calendar year 1910, were 18,000 tons valued at $464,741, or an average of $24.59 per ton. The imports during the calendar year 1910 were 17,699 tons valued at $411,536, an average of $23.25 per ton. The imports since 1887 are shown in Table 15, the figures of the table being for the fiscal year.

IRON.—TABLE 15.

Imports of Ferro-Manganese, Etc., 1887-1910.

Fiscal Year.	Tons.	Value.	Fiscal Year.	Tons.	Value.
		$			$
*1887	123	1,435	†1899	1,160	22,539
*1888	1,883	29,812	†1900	1,149	39,064
*1889	5,868	72,106	†1901	1,512	38,951
*1890	696	18,895	†1902	6,513	150,977
*1891	2,707	40,711	†1903	6,350	162,710
*1892	1,311	23,930	†1904	2,975	75,554
*1893	529	15,858	†1905	12,935	246,815
*1894	284	9,885	†1906	15,023	462,739
†1895	164	5,408	†1907 (9 months)	16,41	610,875
†1896	652	12,811	†1908	17,41.	512,062
†1897	426	9,233	†1909	13,053	388,024
†1898	1,418	22,516	†1910	14,952	332,486

* These amounts include: ferro-manganese, ferro-silicon, spiegel, steel bloom ends and crop ends of steel rails, for the manufacture of iron or steel.
† Ferro-silicon, spiegeleisen, and ferro-manganese.

STEEL.

Returns of steel production received direct from the producers showed a total production of ingots and castings for 1910 of 822,284 tons, as compared with 754,719 tons in 1909, and 588,763 tons in 1908. In 1910 the production of open-hearth ingots was reported as 580,932 tons, Bessemer ingots 222,668 tons, direct open-hearth castings 18,085 tons, and other steels 599 tons; compared with 1909 there was an increase in total production of 67,565 tons, or nearly 9 per cent. The production during the past four years is shown in Table 16 following:—

IRON.—TABLE 16.

Production of Steel, 1907, 1908, 1909, 1910.

—	1907.	1908.	1909.	1910.
	Tons.	Tons.	Tons.	Tons.
Ingots—Open-hearth (basic)	459,240	443,442	535,988	580,932
Bessemer (acid)	225,989	135,557	203,715	222,668
Castings—Open-hearth	20,602	9,051	14,013	18,085
Other steels	1,151	713	1,003	599
Total	706,982	588,763	754,719	822,284

Statistics showing the quantities of the principal materials used in steel furnaces have been obtained for the first time for the year 1910, and it may be of interest to refer to these here. The total quantity of pig iron used in steel furnaces during 1910 was 690,913 tons: of which 601,219 tons were produced by firms reporting, and 89,694 tons purchased. The quantity of ferro-alloys used was 8,143 tons purchased. Scrap, etc., was used to the extent of 211,453 tons, being 140,913 tons produced by the firms reporting, and 70,540 tons purchased. Ores used included 1,317 tons of manganese ore and 39,332 tons of iron ore, while 144,110 tons of limestone or dolomite flux were used and 7,461 tons of fluorspar. In Ontario a little over 600 million cubic feet of natural gas were used, while in Nova Scotia, coke oven gas was used at Sydney, of which a record of quantity is not obtained.

Statistics of the production of steel ingots and castings since 1894 are given in the following table, the figures from 1894 to 1906 inclusive having been collected and published by the American Iron and Steel Association; those for the years 1907 to 1910 have been collected by this Department and are as shown in detail in Table 16.

IRON.—TABLE 17.

Annual Production of Steel Ingots and Castings, 1894-1910.

Calendar Year.	Short Tons.	Calendar Year.	Short Tons.	Calendar Year.	Short Tons.
1894	23,767	1900	26,406	1906	639,396
1895	19,040	1901	29,214	1907	706,982
1896	17,920	1902	203,881	1908	588,763
1897	20,608	1903	203,296	1909	754,719
1898	24,125	1904	166,381	1910	822,284
1899	24,640	1905	451,863		

Following is a list of firms making steel in Canada:—

Dominion Iron and Steel Company, Sydney, N.S.
Nova Scotia Steel and Coal Company, New Glasgow, N.S.
Montreal Steel Works, Limited, Montreal, Que.
The Algoma Steel Company, Sault Ste. Marie, Ont.
The Hamilton Steel and Iron Company, Hamilton, Ont.
The Wm. Kennedy Sons, Limited, Owen Sound, Ont.
The Ottawa Steel Castings Company, Limited, Ottawa, Ont.
The Ontario Iron and Steel Company, Limited, Welland, Ont.

Rolled Products, etc.—Complete statistics of the production of rolled products and of manufactured steel have not been received; returns from seven of the largest producers, however, show a production of blooms, billets, slabs, etc., of 628,100 tons, of which 580,533 tons were used by the producer for further manufacture, and 47,567 tons sold to other rolling mills.

The production of rails was 399,762 tons, of rods 88,456 tons, of bars 125,778 tons, of other rolled products 31,516 tons. The production of steel rails in 1909 was returned as 377,642 tons, and in 1908, 300,935 tons.

The production of finished rolled iron and steel in Canada from 1906 to 1910, as ascertained and published by the American Iron and Steel Association, was as follows, in long tons:—

IRON.—TABLE 18.

Annual Production of Rolled Iron and Steel, 1906-10.

Products—Gross Tons.	1906.	1907.	1908.	1909.	1910.
Rails	312,877	311,461	266,692	344,830	366,465
Structural shapes and wire rods	48,351	65,541	41,520	74,136	80,993
Plates and sheets	15,202	18,493	11,656	36,241	26,642
Nail plate, merchant bars, and all other finished rolled forms	195,312	204,684	174,649	207,534	265,711
Totals	571,742	600,179	496,517	622,741	739,811

BOUNTIES.

Bounties on iron and steel made in Canada were provided for by the Dominion government in 1897 (Chapter 6, Statutes of Canada, 1897). This Act was amended in 1899 (Chapter 8, Statutes of Canada, 1899), and again in 1903 (Chapter 68, Statutes of Canada, 1903). The latter Act provided for the payment of bounty until June 30, 1907. On April 27, 1907, a new Act was passed (Chapter 24, Statutes of Canada, 1907), providing for the further payment of bounties from January 1, 1907, to December 31, 1910, and in the case of pig iron made by electric smelting, until December 31, 1912. An Act assented to May 4, 1910 (Chapter 33, 1910, Edward VII), provided that the bounty on rolled round wire rods should cease after the 30th day of June, 1911. The two last mentioned Acts are as follows:—

Chapter 24, Statutes of Canada, 1907.

An Act Respecting Bounties on Iron and Steel made in Canada.

(Assented to, 27th April, 1907.)

His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. The Governor in Council may authorize the payment out of the Consolidated Revenue Fund of the following bounties on the undermentioned articles when manufactured in Canada for consumption therein, viz.:—

(*a*) In respect of pig iron manufactured from ore, on the proportion from Canadian ore produced during the calendar year:—

1907. . . . . .$2 10 per ton.
1908. . . . . 2 10 "
1909. . . . . 1 70 "
1910. . . . . 0 90 "

(*b*) In respect of pig iron manufactured from ore, on the proportion from foreign ore produced during the calendar year:—

1907. . . . . .$1 10 per ton.
1908. . . . . 1 10 "
1909. . . . . 0 70 "
1910. . . . . 0 40 "

(*c*) On puddled iron bars manufactured from pig iron made in Canada during the calendar year:—

1907. . . . . .$1 65 per ton.
1908. . . . . 1 65 "
1909. . . . . 1 05 "
1910. . . . . 0 60 "

(*d*) In respect of rolled, round wire rods not over three-eighths of an inch diameter, manufactured in Canada from steel produced in Canada from ingredients of which not less than fifty per cent of the weight thereof consists of pig iron made in Canada, when sold to wire manufacturers for use, or when used in making wire in their own factories in Canada, on such wire rods made after the thirty-first day of December, one thousand nine hundred and six, six dollars per ton.

(*e*) In respect of steel manufactured from ingredients of which not less than fifty per cent of the weight thereof consists of pig iron made in Canada, on such steel made during the calendar year:—

1907. . . . . .$1 65 per ton.
1908. . . . . 1 65 "
1909. . . . . 1 05 "
1910. . . . . 0 60 "

(2) No bounty shall be paid under the foregoing provisions in respect of iron or steel made in Canada by electric process after the thirty-first day of December, one thousand nine hundred and eight.

2. The Governor in Council may authorize the payment out of the Consolidated Revenue Fund of the following bounties on the undermentioned articles when manufactured in Canada for consumption therein, viz.:—

(*a*) On pig iron manufactured from Canadian ore by the process of electric smelting during the calendar year:—

1909. . . . . .$2 10 per ton.
1910. . . . . 2 10 "
1911. . . . . 1 70 "
1912. . . . . 0 90 "

(*b*) On steel manufactured by electric process direct from Canadian ore, and on steel manufactured by electric process from pig iron smelted in Canada by electricity from Canadian ore during the calendar year:—

1909	$1 65 per ton.
1910	1 65 "
1911	1 05 "
1912	0 60 "

(2) Bounty, as on pig iron under this section, may be paid upon the molten iron from the ore which in the electric furnace enters into the manufacture of steel by the direct process, the weight of such iron to be ascertained from the weight of the steel so manufactured.

3. No bounty shall be paid on steel ingots from which steel blooms and billets for exportation from Canada are manufactured.

4. The Governor in Council may make regulations to carry out the intention of this Act.

5. The Minister of Trade and Commerce shall be charged with the administration of this Act.

6. Chapter 8 of the Statutes of 1899, Chapter 68 of the Statutes of 1903, and Chapter 39 of the Statutes of 1904, are repealed.

7. This Act shall be deemed to have come into force on the first day of January, one thousand nine hundred and seven.

Chapter 33, Statutes of Canada, 1910.

An Act respecting Bounties on Iron and Steel made in Canada.

(Assented to 4th May, 1910).

His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. No bounties shall be payable in respect of rolled, round wire rods after the thirtieth day of June, one thousand nine hundred and eleven, under paragraph (*d*) of subsection 1 of section 1 of chapter 24 of the statutes of 1907, intituled "An Act respecting Bounties on Iron and Steel made in Canada."

2. Nothing in section 1 of this Act shall prevent the payment, after the said thirtieth day of June, one thousand nine hundred and eleven, of the bounty otherwise payable under the said paragraph (*d*) in respect of rolled, round wire rods if such rods were, on or before the said thirtieth day of June, one thousand nine hundred and eleven, sold to wire manufacturers for use or used in making wire by the makers of such rods in their own factories in Canada.

3. For the purposes of this Act wire rods shall be deemed to be sold when such rods are delivered to the purchaser, or are delivered to a common carrier for transport to the purchaser.

The following statistics respecting bounty payments have been furnished by the Department of Trade and Commerce, or compiled from reports of the Auditor General.

The total bounty payments on account of iron and steel made during the calendar year 1910 were $1,344,144.59, as compared with $1,895,011.55 paid on account of iron and steel made during 1909, and $1,998,283.58 paid for 1908.

Since 1896 a total of about $17,500,000 has been paid by the government of Canada in bounties for the production of iron and steel. Further details with respect to the amounts of bounties paid will be found in the accompanying tables.

Bounties Paid on Pig Iron, manufactured in Canada, during the Twelve Months ending December, 1909.

Name of Claimant.	Tons of Canadian ore used.	Tons of foreign ore used.	Tons of pig iron made from Canadian ore.	Bounty on pig iron from Canadian ore.	Tons of pig iron from foreign ore.	Bounty on pig iron from foreign ore.	Total tons of pig iron produced.	Amount of claim.
				$ cts.		$ cts.		$ cts.
Dominion Iron and Steel Co., Ltd	1,742·00	577,065·00	908·27	1,544 06	277,042·95	193,930 06	277,951·22	195,474 12
Hamilton Steel and Iron Co., Ltd	121,121·14	181,131 15	68,001·34	115,602 30	88,916·55	62,241 59	156,917 89	177,843 89
Nova Scotia Steel and Coal Co., Ltd	.....	110,649·00	.....	.....	57,885·00	40,519 50	57,885·00	40,519 50
Algoma Steel Co., Ltd	66,930·67	283,531·65	35,041·07	59,569 82	140,525·98	98,368,19	175,567 05	157,938 01
Atikokan Iron Co., Ltd	13,452 12	.....	8,882·22	15,099 76	.....	.....	8,882·22	15,099 76
Canada Iron Corp., Ltd., (Drummondville)	60·90	.....	19·94	33 90	.....	.....	19·94	33 90
" " (Midland)	17,280·83	58,421·12	9,207·27	15,652 37	30,602·43	21,421 73	39,809·70	37,074 10
" " (Radnor)	9,884·84	1,487·81	3,939·56	6,697 22	810·42	567 28	4,749·98	7,264 50
Standard Chemical Co. of Toronto, Deseronto	622·21	23,201·73	297·88	506 37	11,934·76	8,354 29	12,232·64	8,860 66
	231,094·71	1,235,487·46	126,297·55	214,705 80	607,718·09	425,402 64	734,015·64	640,108 44

Bounties Paid on Steel Ingots during the Twelve Months ending December, 1909.

——	Tons of Canadian pig iron used.	Tons of foreign pig iron used.	Tons of other ingredients.	Tons of steel made.	Bounty paid.
					$ cts.
Dominion Iron and Steel Co., Ltd	279,651·44	.....	95,346·60	332,320·99	348,937 06
Hamilton Steel and Iron Co., Ltd	43,722 56	.....	40,108 49	76,847·94	80,690 36
Nova Scotia Steel and Coal Co., Ltd	52,006·42	.....	20,966 45	64,239·94	67,451 95
Algoma Steel Co., Ltd	181,842·04	6,978 82	31,045·71	199,770·05	209,758 55
Lake Superior Iron and Steel Co., Ltd	28,466·77	54·50	26,940·74	51,740·24	54,327 26
*Ontario Iron and Steel Co., Ltd	3,222·17	.....	2,883·07	4,270·21	5,305 23
	588,911·40	7,033·32	217,291·06	729,189·37	766,470 41

*Includes a small quantity produced in 1908.

During the year bounty to the amount of $488,432.70 was paid the Dominion Iron and Steel Co., Ltd., for 81,405·42 tons of wire rods made.

Bounties Paid on Pig Iron, manufactured in Canada, during the Twelve Months ending December, 1910.

Name of Claimant.	Tons of Canadian ore used.	Tons of foreign ore used.	Tons of pig iron made from Canadian ore.	Bounty on pig iron from Canadian ore.	Tons of pig iron from foreign ore.	Bounty on pig iron from foreign ore.	Total tons of pig iron produced.	Amount of claim.
				$ cts.		$ cts.		$ cts.
Dominion Iron and Steel Co., Ltd	.....	569,949·00	.....	.....	280,937·93	112,375 17	280,937·93	112,375 17
Hamilton Steel and Iron Co., Ltd	78,373·57	259,980·07	44,484·18	40,035 77	128,775·31	51,510 14	173,259·49	91,545 91
Nova Scotia Steel and Coal Co., Ltd	.....	122,009·00	.....	.....	64,562 00	25,824 80	64,562 00	25,824 80
Algoma Steel Co., Ltd	25,861 49	305,250·53	14,265·20	12,838 67	167,041·24	66,816 50	181,306 44	79,655 [illegible]7
Atikokan Iron Co., Ltd	24,951·13	424 87	17,103·31	15,392 97	234 [illegible]	94 00	17,338 30	15,486 97
Canada Iron Corp., Ltd., (Drummondville)	5,897 [illegible]	321·72	2,266 12	2,039 51	163 52	65 41	2,429 64	2,104 92
" " (Midland)	12,364·25	[illegible] 308·16	6,281·87	5,653 72	39,800·63	15,920 27	46,082 50	21,573 99
" " (Radnor)	507 54	48 47	208 32	187 48	599 34	239 73	807 66	427 21
Standard Chemical Co. of Toronto, Deseronto	288 39	27 [illegible]5·69	149 70	134 71	13,776 27	5,516 50	13,925·97	5,645 21
	148,244·27	1,361,[illegible]·51	84,758·70	76,282 83	695,891·23	278,356 52	780,649·93	354,639 35

Bounties Paid on Steel Ingots during the Twelve Months ending December, 1910.

——	Tons of Canadian pig iron used.	Tons of foreign pig iron used.	Tons of other ingredients.	Tons of steel made.	Bounty paid.
					$ cts.
Dominion Iron and Steel Co., Ltd	306,051·68	.....	87,101·19	339,450·03	203,670 04
Hamilton Steel and Iron Co., Ltd	52,774·51	.....	47,299 78	90,353 28	54,211 95
Nova Scotia Steel and Coal Co., Ltd	58,043·10	.....	22,918·14	72,927·72	43,756 63
Algoma Steel Co., Ltd	187,994·56	34,823 05	26,524·40	222,637·21	133,582 33
Lake Superior Iron and Steel Co., Ltd	23,631 80	722 50	20,928·26	42,011 15	25,206 69
	628,495·65	35,545·55	204,771·77	767,379·39	460,427 64

During the year bounty to the amount of $529,077.60 was paid Dominion Iron [illegible] Steel Co., Ltd., for 88,179·58 tons of wire rods made.

Total Bounty paid to each Company during the past three Fiscal years.

Corporations.	1908.	1909.	1910.
	$ cts.	$ cts.	$ cts.
Algoma Steel Co., Ltd.	534,025 50	304,789 25	318,814 17
Atikokan Iron Company, Ltd.	17,210 46	.....	15,099 76
*{Canada Iron Furnace Co., Ltd.	51,213 12	56,831 92	40,148 06
*{John McDougall and Co.	5,368 12		
†Deseronto Iron Co., Ltd.	7,299 30	.....	10,120 46
Dominion Iron and Steel Co., Ltd.	1,228,915 39	1,067,528 92	1,029,503 85
Hamilton Steel and Iron Co., Ltd.	222,490 31	252,311 20	238,408 35
Londonderry Iron and Mining Co., Ltd.	37,441 52	.....	.....
Lake Superior Iron and Steel Co.	17,500 60	45,890 58	54,628 56
Nova Scotia Steel and Coal Co., Ltd.	181,436 26	130,374 99	97,345 79
Ontario Iron and Steel Co.	251 77	6,887 30	4,463 73
	2,303,152 35	1,864,614 16	1,808,018 84

* Amalgamated in 1909 to form Canada Iron Corporation, Ltd.
† In 1909 worked by the Standard Chemical Co. of Toronto.

Total Bounties on Iron and Steel paid by the Government of Canada since 1896.

Year ended.	Pig Iron.	Puddled iron bars.	Steel.	Manufactures of Steel.
	$	$	$	
June 30, 1896	104,105	5,611	59,499	.....
" 1897	66,509	3,019	17,366	.....
" 1898	165,654	7,706	67,454	.....
" 1899	187,954	17,511	74,644	.....
" 1900	238,296	10,121	64,360	.....
" 1901	351,259	16,703	100,058	.....
" 1902	693,108	20,550	77,431	.....
" 1903	666,001	6,792	729,102	.....
" 1904	533,982	11,669	347,990	15,321
" 1905	624,667	7,895	676,318	231,324
" 1906	687,632	5,875	941,000	369,832
March 31, 1907 (9 months)	385,231	312	575,259	338,999
" 1908	863,817	.....	1,092,201	347,135
" 1909	693,423	.....	838,100	333,091
" 1910	573,969	.....	695,752	538,812
Totals	6,835,607	113,674	6,356,534	2,174,514

EXPORTS AND IMPORTS OF IRON AND STEEL GOODS.

Iron and steel goods were exported from Canada during 1910 to the total value of $7,895,489; as compared with the value of exports in 1909 of $7,172,413, and 1908, $5,907,792. Of the total exports in 1910, stoves, castings, and machinery contributed a total valuation of $1,141,027; pig iron, $296,310; scrap iron and steel, $171,603; steel and manufactures of steel, $1,110,925; agricultural implements, $4,712,597; and automobiles and bicycles, $465,027. Details of these exportations during the past two years are shown in the accompanying table.

IRON.—TABLE 19.

Exports of Iron and Steel goods, the product of Canada, during the Calendar Years 1909 and 1910.

		1909.		1910.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Stoves	No.	774	10,330	1,058	15,832
Castings, N.E.S.	$	.....	25,038	.....	51,958
Pig iron	Tons.	5,063	186,778	9,763	296,310
Machinery (linotype machines)		.....	43,686	.....	39,438
Machinery, N.E.S.		.....	421,707	.....	301,961
Sewing machines	No.	12,759	147,402	17,834	188,196
Typewriters	"	3,749	238,167	5,970	409,326
Scrap iron and steel	Cwt.	410,506	305,256	233,264	171,603
Hardware, tools, etc.	$	.....	52,207	.....	88,844
Hardware, N.E.S.	"	.....	35,507	.....	43,472
Steel and manufactures of	"	.....	1,132,678	.....	1,110,925
Agricultural imp' ments—					
Mowing machines	No.	.....		18,745	634,326
Reapers	"	.....		3,411	220,517
Harvesters	"	.....		11,382	1,234,794
Ploughs	"	.....		16,888	540,677
Harrows	"	.....		8,924	115,068
Hay forks	"	.....		.....	.....
Hay rakes	"	.....	4,226,280	6,344	205,342
Seeders	"	.....		256	13,727
Threshing machines	"	.....		29	8,576
All other	"	.....		.....	1,163,722
Parts of	"	.....		.....	575,848
Automobiles	"	213	279,924	387	433,663
Bicycles	"	84	2,703	72	2,710
Bicycles, parts of	"	.....	64,750	.....	28,654
Total		.....	7,172,413	.....	7,895,489

The detailed statement of the imports of iron and steel, as compiled from the annual reports of Trade and Navigation, is shown in Tables 21 and 22, Table 21 showing the imports subjects to duty and Table 22 showing the imports free of duty.

The total value of the imports during the fiscal year ending March, 1910, was $59,952,197, as compared with the valuation of imports in 1909 of $40,393,431, and $61,819,698 during the fiscal year 1908. These imports include all classes of iron and steel goods manufactured, as well as those of a crude form. In many cases the imports of manufactured goods are given only in dollars, so that the total tonnage of imports cannot be estimated. In the case of most of the cruder materials, however, the quantities are given, and a compilation of these shows a minimum importation of iron and steel during the fiscal year ending March, 1910, of 915,425 tons, as compared with 565,734 tons in 1909 and 1,079,000 tons in 1908. A summary of these importations is shown in Table 20.

In addition to the imports of pig iron and of ferro-products which have already been referred to, this record shows an importation in 1910 of ingots,

blooms, billets, puddled bars, etc., of 36,819 tons; scrap iron and scrap steel, 28,797 tons; plates and sheets, 200,575 tons; bars, rods, hoops, bands, etc., 117,159 tons; structural iron and steel, 195,748 tons; rails and connexions, 55,183 tons; pipe and fittings, 16,705 tons; nails and spikes, 3,476 tons; wire, 68,211 tons; forgings, castings, and manufactures, 18,093 tons.

The total value of the 915,425 tons imported was $27,874,437, or an average value per ton of $30.44. Other iron and steel goods of which the weights are not recorded were imported to the value of $32,077,760, making up the total value of $59,952,197 shown in detail in Tables 21 and 22.

A very large proportion of these imports is derived from the United States, and it may be of interest here to quote from the records published in the "Commerce and Navigation of the United States" showing the exports of iron and steel goods from that country to Canada.

According to this authority there was exported to Canada from the United States during the twelve months ending June 30, 1910, 574,807 tons of iron and steel goods, valued at $19,673,740, together with other iron and steel goods of which the weight is not given, valued at $28,153,628, or a total value of $47,827,368.

During the twelve months ending June 30, 1909, the corresponding exports to Canada were 332,802 tons valued at $12,154,770, together with other iron and steel goods to the value of $19,251,962, or a total value of $31,406,732. Iron ores are not included in either case.

The detailed items will be found in Table 23.

IRON.—TABLE 20.

Imports of some Iron and Steel products of which the weights are available.

Material.	Twelve months ending March.		
	1908.	1909.	1910.
	Tons.	Tons.	Tons.
Pig iron	212,290	58,591	159,506
Ferro-products and chrome steel	17,661	13,206	15,153
Ingots, blooms, billets, puddled bars, etc	21,222	8,887	36,819
Scrap iron and scrap steel	69,213	26,212	28,797
Plates and sheets	126,172	116,610	200,575
Bars, rods, hoops, bands, etc	98,631	73,261	117,159
Structural iron and steel	373,871	162,735	195,748
Rails and connexions	52,706	32,543	55,183
Pipe and fittings	25,090	18,309	16,705
Nails and spikes	2,741	1,611	3,476
Wire	57,046	39,375	68,211
Forgings, castings, and manufactures	22,357	14,394	18,093
Total	1,079,000	565,734	915,425

IRON.—TABLE 21.

Imports of Iron and Steel Goods subject to Duty.

Material.		Twelve Months ending March, 1909.		Twelve Months ending March, 1910.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Agricultural implements, N.O.P., viz.:—					
Binding attachments	$		1,294		156
Cultivators and weeders	No.	3,911	26,389	10,069	54,392
Drills, seed	"	3,579	123,542	5,428	218,599
Farm, road, or field rollers	"	52	14,044	71	29,542
Forks, pronged	"	5,822	4,142	3,639	3,553
Harrows	"	3,853	61,220	9,004	114,586
Harvesters, self-binding	"	1,206	129,775	1,483	166,013
Hay loaders	"	370	19,926	460	25,119
Hay tedders	"		1,174	14	736
Hoes	"	3,698	1,145	9,290	1,978
Horse rakes	"	591	18,260	1,252	30,758
Knives, hay or straw	"	6,261	2,428	3,210	870
Knives, edging	"	1,102	241	143	173
Lawn mowers	"	4,680	17,920	6,722	22,454
Manure spreaders	"	196	19,827	248	21,750
Mowing machines	"	1,731	61,599	1,431	62,978
Ploughs	"	13,192	462,184	26,695	9[illegible],716
Post hole diggers	"	762	[illegible]	2,012	[illegible],279
Potato diggers	"	717	25,468	770	[illegible],225
Rakes, N.O.P.	"	13,922	2,249	28,456	5,555
Reapers	"	297	17,009	161	8,350
Scythes	Doz	2,492	11,624	2,098	10,720
Sickles or reaping hooks	"	1,190	546	329	959
Snaths	"	6	35	78	306
Spades and shovels of iron or steel, N.O.P.	"	5,005	21,219	9,095	43,145
Spade and shovel blanks, and iron or steel cut to shape for the same	"	1,902	2,521	4,474	7,410
Parts of agricultural implements paying 12½ per cent and 17½ per cent	$		252,414		281,245
" " " 12½, 17½, and 20 per cent	"		260,959		493,714
All other agricultural implements, N.O.P.	"		50,862		57,072
Anvils and vises	"		45,033		66,592
Cart or wagon skeins or boxes	Lbs.	12,919	914	132,868	9,945

Springs, N.O.P. and parts thereof, of iron or steel, for railway, tramway, or other vehicles	Cwt.	3,105	16,831	6,100	36,652
Axle and axle parts, N.O.P., and axle blanks and parts thereof, of iron or steel for railway, tramway, or other vehicles	"	39,153	100,731	40,261	164,891
Bar iron or steel, rolled, whether in coils, bundles, rods or bars, comprising rounds, ovals, squares, and flats, N.O.P.	"	785,981	1,223,995	1,402,674	1,952,170
Butts and hinges N.O.P.	$		38,246		65,783
Canada plates, Russia iron, terne plate, and rolled sheets of iron and steel coated with zinc, spelter or other metal, of all widths or thicknesses, N.O.P.	Cwt.	74,860	233,753	59,685	195,126
Castings, iron or steel, N.O.P.	$		28,368		403,524
Cast iron pipe of every description	Cwt.	320,275	370,085	280,891	327,175
Cast scrap iron	Tons	15,190	202,842	12,621	153,578
Chains, coil chains, chain links, and chain shackles of iron or steel of $\frac{3}{8}$" diameter, and over	Cwt.	45,386	131,324	55,216	158,251
Chains, N.O.P.	$		34,221		45,386
Tacks, shoe	Lbs.	23,322	1,929	23,427	2,519
Nails, brads, spikes, and tacks of all kinds, N.O.P.	"	335,638	22,678	483,265	28,753
Engines, etc.:—					
Locomotives for railways	No.	113	384,086	99	346,090
Locomotive parts	$				41,823
Motor cars for railways and tramways	"	2	3,900	7	7,141
Engines, fire	"	17	13,411	12	7,638
Engines, gasoline	"	4,076	714,574	5,617	1,000,003
Engines, steam		380	234,[illegible]24	324	252,864
Boilers, steam		372	114,975	654	243,246
Boilers, N.O.P.	"	287	39,144	1,988	120,753
Fire extinguishing machines, including sprinklers for fire protection	$		78,690		78,248
Fittings, iron or steel, for iron or steel pipe of every description	Lbs	4,599,270	282,552	5,321,262	357,782
Flat eye-bar blanks, not punched or drilled, for use exclusively in the manufacture of bridges or of steel structural work, or in car construction	Tons	3	80	199	5,911
Ferro-silicon, spiegeleisen, and ferro-manganese	"	13,053	388,024	14,952	332,486
Forgings of iron and steel of whatever size, shape, or in whatever stage of manufacture, N.O.P., and steel shafting, turned, compressed or polished and hammered, drawn or cold rolled iron or steel bars or shapes, N.O.P.	Lbs.	2,270,838	96,388	2,491,222	121,952
Hardware, viz.: builders, cabinet-makers, upholsterers, harness-makers, saddlers and carriage hardware, including curry-combs, N.O.P.	$		365,230		503,939
Horse, mule, and ox shoes	"		5,880		13,797
Iron or steel billets, weighing not less than 60 pounds per lineal yard	Cwt.	78,797	95,350	567,159	518,102
Iron or steel ingots, cogged ingots, blooms, slabs, puddled bars, and loops, or other forms, N.O.P., less finished than iron or steel bars, but more advanced than pig iron, except castings	Cwt.	74,305	53,135	115,490	97,333
Iron or steel bridges or parts thereof, iron or steel structural work, columns, shapes or sections, drilled, punched or in any further stage of manufacture than as rolled or cast, N.O.P.	Tons	69,636	176,613	48,940	125,938
Iron in pig	"	57,669	857,357	158,910	2,118,440
Iron in pig charcoal	"	922	16,575	596	8,695
Locks of all kinds	$		222,000		353,243
Machines, machinery, etc.:—					
Automobiles and motor vehicles of all kinds	No.	533	585,097	1,424	1,732,215
Automobiles and motor vehicles, parts of	$		127,143		269,586
Fanning mills	No.	1,160	12,813	831	10,854
Grain crushers	"	12	263	49	661

IRON.—TABLE 21—*Continued.*

Imports of Iron and Steel Goods subject to Duty.

Material.		Twelve Months ending March, 1909.		Twelve Months ending March, 1910.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Machines, machinery, etc.:—					
Windmills and complete parts thereof	No.	754	38,284	1,036	48,310
Ore crushers and rock crushers, stamp mills, cornish and belted rolls, rock drills, air compressors, cranes, derricks, and percussion coal cutters	$	.....	176,014	..	250,311
Portable machines:—					
Fodder or feed cutters	No.	187	1,740	180	1,713
Horse-powers for farm purposes	"	20	958	48	3,912
Portable engines with boilers in combination and traction engines for farm purposes	"	602	794,854	1,216	1,817,209
Portable sawmills and planing mills	"	20	18,759	13	12,303
Steam shovels	"	29	152,027	20	95,948
Threshing machine separators	"	624	362,083	1,199	[illegible]
Threshing machine separators, parts of, including wind-stackers, baggers, weighers, and self-feeders for same, and finished parts thereof for repairs, when imported separately	$	.....	239,118		[illegible]
	"	.....	19,891		23,873
All other portable machines, N.O.P., and parts	No.	11,823	207,295	16,430	[illegible]
Sewing machines	$	.....	52,044		101,584
Sewing machines, parts of	No.	248	7,832		
Slot machines	"	6,050	446,851	9,319	670,165
Machines, typewriting	"	20	123,446	66	297,071
Machines, type-casting and type-setting, and parts thereof, adapted for use in printing offices					
Machines specially designed for ruling, folding, binding, embossing, creasing, or cutting paper or cardboard, when for use exclusively by printers, bookbinders, and by manufacturers of articles made from paper or cardboard, including parts thereof, composed wholly or in part of iron, steel, brass, or wood	"	266	88,493	310	[illegible]
Machines for carding, spinning, weaving, or knitting, imported by manufacturers for such purposes	$	..	823,698		
Lithographic presses and type-making accessories for same	"	..	27,131	..	62,000
Printing presses	"	..	160,600		[illegible]
Machinery of a class or kind not made in Canada and parts thereof adapted for carding, spinning, weaving, braiding, or knitting fibrous material, when imported by manufacturers for such purposes	"	.....	.....	...	847,247
All machinery composed wholly or in part of iron or steel, N.O.P., and iron or steel castings, and iron or steel integral parts of all machinery specified in tariff item 453	"	.....	5,516,890		7,136,556
Machines, washing	No.	.....	.....	6,538	36,178

Malleable iron castings and iron or steel casting, N.O.P.	Cwt.	7,797	34,001	...	....
Nails and spikes, composition and sheathing nails	Lbs.	74,485	4,991	255,72[illegible]	9,140
Nails and spikes, cut (ordinary builders)	Cwt.	2,897	6,783	2,4[illegible]	4,977
Railway spikes	"	18,902	34,260	[illegible],842	50,320
Nails, wire of all kinds, N.O.P.	"	6,088	25,160	8,375	33,457
Pumps, hand, N.O.P.	No.	11,951	54,216	17,861	72,6[illegible]
Iron and steel railway bars or rails of any form, punched or not, N.O.P., for railways, which term for the purposes of this item shall include all kinds of railways, street railways and tramways, even although they are used for private purposes only, and even although they are not used or intended to be used in connexion with the business of common carrying of goods or passengers	Tons.	29,547	797,479	[illegible]	1,398,373
Railway fish-plates	"	1,784	67,045	2,526	109,114
Railway tie-plates	"	333	15,147	1,399	47,275
Rolled iron or steel angles, tees, beams, channels, girders, and other rolled shapes or sections, not punched or drilled or further manufactured than rolled, N.O.P.	Cwt.	383,529	553,702	831,933	1,081,[illegible]
Rolled iron or steel beams, channels, angles, and other rolled shapes of iron and steel, not punched, drilled, or further manufactured than rolled, weighing not less than 35 pounds per lineal yard, not being square, flat, oval or round shapes, and not being railway bars or rails	"	1,050,541	1,444,741	1,674,455	2,011,445
Rolled iron or steel hoop, band, scroll, or strip, 12 inches or less in width, No. 13 gauge and thicker, N.O.P.	"	34,969	59,501	25,319	41,158
Rolled iron or steel hoop, band, scroll or strip, No. 14 gauge and thinner, galvanized or coated with other metal or not, N.O.P.	"	86,283	204,169	116,887	252,217
Rolled iron or steel sheets or plates, sheared or unsheared, and skelp iron or steel, sheared or rolled grooves, N.O.P.	"	156,910	242,690	273,690	388,563
Rolled iron or steel plates not less than 30" in width and not less than ¼" in thickness, N.O.P.	"	333,447	453,205	634,688	826,894
Rolled iron or steel sheets and strips, polished or not, No. 14 gauge and thinner, N.O.P.	"	204,522	498,705	400,898	956,028
Rolls of chilled iron or steel	"	1,547	5,056	751	3,191
Sad or smoothing hatters' and tailors' irons	$	..	5,836		5,556
Safes, doors for safes and vaults	"		92,491		140,274
Screws, iron and steel, commonly called 'wood screws,' N.O.P., including lag or coach screws, plated or not, and machine or other screws, N.O.P.	Gross	100,391	19,219	151,389	29,189
Scales, balances, weighing beams, and strength-testing machines of all kinds	$	.	174,738		119,447
Shafting, round, steel, in bars not exceeding 2½" diameter	Cwt	28,322	53,747	43,971	76,756
Sheets or plates of steel, cold rolled with sheared edges over 14 gauge, and not less than 1½" wide, for the manufacture of mower bars, hinges, typewriters, and sewing machines	"			6,161	12,324
Sheets, flat, of galvanized iron or steel	"	128,002	388,883	266,607	825,443
Sheets, iron or steel, corrugated, galvanized	"	1,328	3,891	1,564	3,546
Sheets, iron or steel, corrugated, not galvanized	"	244	753	26	48
Skates of all kinds, roller or other, and parts thereof	Pairs	92,005	49,164	[illegible]	43,[illegible]
Skelp iron or steel, sheared or rolled in grooves, imported by manufacturers of wrought iron or steel pipe, for use exclusively in the manufacture of wrought iron or steel pipe in their own factories	Cwt.	685,341	925,417	1,222,161	1,546,580
Steel billets, N.O.P.	"	24,658	31,869	53,636	63,089
Stoves of all kinds, for coal, wood, oil, spirits, or gas	$	.	355,786		492,538
Stove urns of metal, and dovetails, chaplets, and hinge tubes of tin for use in the manufacture of stoves	"		14,753		17,136
Switches, frogs, crossings, and intersections for railways	Cwt.	17,582	74,527	[illegible]	134,734
Tubing:—					
Wrought or seamless tubing, iron or steel, plain or galvanized, threaded and coupled, or not, over 4" diameter, N.O.P.	$	..	245,238	. .	[illegible]

Imports of Iron and Steel Goods subject to Duty.

Material.		Twelve Months ending March, 1909.		Twelve Months ending March [illegible]	
		Quantity.	Value.	Quantity.	Va
			$		$
Tubing—Continued.					
Wrought or seamless tubing, iron or steel, plain or galvanized, threaded and coupled, or not, 4" and less in diameter, N.O.P.	Cwt.		212,283		332,213
Seamless steel tubing, valued at not less than 3½ cents per lb.	"	4,102	24,237	5,039	27,497
Rolled or drawn square tubing of iron or steel, adapted for use in the manufacture of agricultural implements	$		4,636		5,942
Iron or steel pipe or tubing, plain or galvanized, riveted, corrugated or otherwise specially manufactured, including lockjoint pipe, N.O.P.	"		167,903		194,545
Iron or steel pipe, not butt or lap welded, and wire bound wooden pipe, not less than 30" internal diameter, when for use exclusively in alluvial gold mining	"		16,850		47,488
Ware—Agate, granite, or enamelled iron or steel ware	"		122,418		143,374
Ware—Iron or steel hollow ware, plain black or coated, N.O.P., and nickel and aluminium kitchen or household hollow ware	"		20,906		42,507
Wire bale ties	Bundles of 250 ties	4,541	5,635		
Wire bound wooden pipe, N.O.P.					185
Wire cloth or woven wire and netting of iron or steel	Lbs.	1,376,974	74,422	1,347,439	76,792
Wire, crucible cast steel, valued at not less than 6 cents per lb.	"	77,410	14,964	114,770	24,743
Wire screens, doors, and windows	$		5,864		9,625
Wire buckthorn strip fencing, woven wire fencing, and wire fencing of iron and steel, N.O.P., not to include woven wire or netting made from wire smaller than No. 14 gauge, not to include fencing or wire larger than No. 9 gauge	Lbs.	1,363,438	45,513	1,596,471	51,698
Wire, single or several, covered with cotton, linen, silk, rubber, or other material, including cable so covered	"	1,674,448	277,662	3,157,730	329,229
Wire of iron and steel all kinds, N.O.P.	"	4,723,315	136,628	7,713,356	210,630
Wire rope, stranded or twisted wire clothes lines, picture or other twisted wire, and wire cables, N.O.P.	"	3,146,825	225,675	5,330,334	345,756
Iron or steel nuts, rivets, or bolts with or without threads, nut bolt, and blank, and T and strap hinges of all kinds, N.O.P.	Cwt.	23,962	88,248	33,873	132,082
Iron or steel scrap, wrought, being waste or refuse, including punchings, cuttings, and clippings of iron or steel plates or sheets having been in actual use; crop ends of tin plate bars, blooms, and rails, the same not having been in actual use	"	220,444	140,875	302,714	191,782
Penknives, jack-knives, and pocket knives of all kinds	$		102,973		74,868

Knives and forks of steel, plated or not, N.O.P.	Cwt.		167,175		201,445
All other cutlery, N.O.P.	"		357,003		507,622
Guns, rifles, including air guns and air rifles (not being toys), muskets, cannons, pistols, revolvers, or other firearms	"		446,911		[illegible]
Bayonets, swords, fencing foils, and masks	"		7,690		6,043
Needles of any material or kind, N.O.P.	"		69,460		[illegible]
Steel, chrome steel	Cwt.	3,057	13,947	4,028	17,581
Steel plate, universal mill or rolled edge plates of steel over 12" wide, imported by manufacturers of bridges or of structural work, or for use in car construction	"	265,356	370,650	[illegible]	300,953
Steel in bars or sheets to be used exclusively in the manufacture of shovels when imported by the manufacturers of shovels	"	17,080	25,022	27,723	36,437
Rolled iron or steel, or cast steel in bars, bands, hoops, scroll, or strip, sheet or plate of any size, thickness or width, galvanized or coated with any material or not, and steel blanks for the manufacture of milling cutters, when of greater value than 3½ cents per pound	"	41,848	208,082	71,716	415,331
Steel balls adapted for use in bearings of machinery and vehicles	$		11,474		14,725
Flat steel, cold rolled, not over ½" thick, for the manufacture of cups and cones for ball bearings	Cwt.			396	1,429
Steel wool	"	208	2,025	126	2,418
Tools and implements—					
Adzes, cleavers, hatchets, wedges, sledges, hammers, crowbars, cant-dogs and track tools, picks, mattocks and eyes or poles for the same	$		47,575		63,078
Axes	Doz.	4,392	26,597	6,503	35,467
Saws	$		73,058		80,677
Files and rasps, N.O.P.	"		76,581		83,927
Tools, hand or machine, of all kinds, N.O.P.	"		682,014		629,471
Knife blades or blanks, and table forks of iron and steel, in the rough, not handled, filed, ground or otherwise manufactured	"				95
Manufactures, articles or wares of iron and steel, or of which iron and steel (or either) are the component materials of chief value, N.O.P.	"		3,324,920		4,904,486
Totals			33,063,397		49,830,256

IRON.—TABLE 22.

Imports of Iron and Steel Goods free of Duty.

Material.		Twelve Months ending March, 1909.		Twelve ... ending March, 1910.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Anchors for vessels	Cwt.	5,914	22,528	5,698	22,299
Chain, malleable sprocket or link belting	$	.....	153,893	.....	180,839
Cream separators, and steel bowls for	"	.....	547,990	.....	585,148
Cream separators—materials which enter into the construction and form part of when imported by manufacturers of cream separators to be used in the manufacture thereof	"	.....	212,172	.....	227,680
Gas buoys—The following articles and materials, when imported by manufacturers of automatic gas buoys and automatic gas beacons, for use in the manufacture of such buoys and beacons for the Government of Canada or for export, viz., iron or steel tubes over 16″ in diameter; flanged and dished steel heads made from boiler plate, over 5 feet in diameter; hardened steel balls, not less than 3″ in diameter; acetelyne gas lanterns and parts thereof, and tobin bronze in bars or rods	"	.....	23,229	.....	14,916
Iron or steel rods over $\frac{5}{16}$″ in diameter for manufacturing of chain	Cwt.	10,740	14,510	21,134	27,363
Rolled iron or steel rods not over ½″ in diameter or width, to be manufactured into horseshoe nails	"	.....	.....	2,917	5,602
Iron or steel, rolled round wire rods, in the coil, not over ⅜″ in diameter, when imported by wire manufacturers for use in making wire in the coil in their own factories	"	406,241	538,378	561,423	749,117
Boiler plate of iron or steel not less than 30″ width, and not less than ¼″ thickness, for use exclusively in the manufacture of boilers	"	160,273	244,476	307,737	438,744
Flat galvanized iron or steel sheets	"	221,224	697,466	391,076	1,167,496
Rolled iron and steel, and cast steel in bars, band, hoop, scroll or strip, sheet or plate of any size, thickness or width, galvanized or coated with any material or not, and steel blanks for the manufacture of milling cutters, when of greater value than 3½ cts. per lb	"	39,000	264,739	59,261	412,110
Rolled iron or steel sheets in strips, polished or not, 14 gauge and thinner, N.O.P.	"	292,219	647,232	324,935	648,641
Rolled iron or steel, hoop, band, scroll, or strip, No. 14 gauge and thinner, galvanized or coated with other metal or not, N.O.P.	"	11,775	20,059	17,936	28,413
Iron tubing for manufacture of extension rods for windows	$	.....	3,441	.....	5,866
Iron or steel, beams, sheets or plates, ankles, knees, masts or parts thereof, and cable chains for wooden, iron, steel or composite ships or vessels	Cwt.	162,532	257,783	113,010	173,143
Locomotive and car wheel tires of steel in the rough	"	105,882	274,722	136,586	337,093
Scrap iron and scrap steel, old, and fit only to be remanufactured, being part of or recovered from any vessel wrecked in waters subject to the jurisdiction of Canada	"	.....	.....	800	100

Machinery:—					
Articles of metals as follows when for use exclusively in mining or metallurgical operations, viz: coal cutting machines, except percussion coal cutters; coal heading machines; coal augers; rotary coal drills; core drills; miners safety lamps and parts thereof, also accessories for cleaning, filling, and testing such lamps; electric or magnetic machines for separating or concentrating iron ores; furnaces for the smelting of copper, zinc, and nickel ores; converting apparatus for metallurgical processes in metals; copper plates, plated or not, machinery for extraction of precious metals by the chlorination or cyanide process; amalgam safes; automatic ore samplers; automatic feeders; retorts, mercury pumps; pyrometers; bullion furnaces; amalgam cleaners; blast furnace blowing engines; wrought iron tubing, butt or lap welded; threaded, or coupled or not, over 4" in diameter; and integral parts of all machinery mentioned in this item; blowers of iron or steel for use in the smelting of ores, or in the reduction, separation, or refining of metals, rotary kilns, revolving roasters, and furnaces of metal designed for roasting ore, mineral rock or clay; furnace slag trucks, and slag pots of a class or kind not made in Canada; buddles, vanners, and slime tables adapted for use in gold mining	$	...	534,197	..	765,564
Appliances of iron or steel, of a class or kind not made in Canada, and elevators and machinery of floating dredges, when for use exclusively in alluvial gold mining	"		269,407		60,154
Well-drilling, and apparatus of a class or kind not made in Canada for drilling for water, natural gas or oil, and for prospecting for minerals, not to include motive power	"		61,380		120,409
Briquette making machines	"		702		3,742
Newspaper printing presses, of not less value by retail than $1,500 each, of a class or kind not made in Canada	No.	60	172,384	97	391,657
Machinery and tools not manufactured in Canada up to the required standard necessary for any factory to be established in Canada for the manufacture of rifles for the Government of Canada	$		4,938		9,331
All materials, or parts in the rough, unfinished, and screws, nuts, bands, and springs to be used in rifles to be manufactured at any such factory for the Government of Canada	"		14,720		54,068
Machinery of every kind, and structural iron and steel for use in the construction and equipment of factories for the manufacture of sugar from beet root	"		12,317		51,222
Machinery of a class or kind not made in Canada and parts thereof, for the manufacture of twine cordage, or linen, or for the preparation of flax fibre	"				16,35
Mould boards or shares, or plough plates, land sides, and other plate for agricultural implements, when cut to shape from rolled plates of steel, but not moulded, punched, polished or otherwise manufactured	Cwt.	60,183	144,288	103,627	289,044
Steel balls adapted for use on bearings on machinery, and vehicles	$		2,326		3,688
Steel, rolled, for saws and straw cutters not tempered, or ground, nor further manufactured than cut to shape without indented edges	Cwt.	12,097	96,305	19,145	158,438
Steel strips, and flat steel wire when imported into Canada by manufacturers of buckthorn and plain strip fencing, for use exclusively in their own factories in the manufacture thereof	"	28	109	19	157
Steel wire, Bessemer soft drawn spring of Nos. 10, 12, and 13 gauge, respectively, and homo steel spring wire of Nos. 11 and 12 gauge, respectively, when imported by manufacturers of wire mattresses, to be used exclusively in their own factories in the manufacture of such articles	"	6,421	15,565	8,610	21,885
Steel, crucible sheet, 11 to 16 gauge, 2¼" to 18" wide, for the manufacture of mower and reaper knives when imported by manufacturers thereof for use exclusively in the manufacture of such articles in their own factories	"	12,033	50,726	13,830	55,095
Steel No. 20 gauge and thinner, but not thinner than No. 30 gauge, for the manufacture of corset steels, clock springs, and shoe shanks, imported by manufacturers of such articles for exclusive use in the manufacture of such articles in their own factories	"		5	87	360

IRON.—TABLE 22—*Continued.*

Imports of Iron and Steel Goods Free of Duty.

Material.		Twelve Months ending March, 1909.		Twelve Months ending March, 1910.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Steel wire, flat, of 16 gauge or thinner, imported by the manufacturers of crinoline, and corset wires and dress stays, for use exclusively in the manufacture of such articles in their own factories	Cwt.	4,094	26,495	12,950	46,665
Steel, No. 12 gauge and thinner, but not thinner than No. 30 gauge, for the manufacture of buckle clasps, bed fasts, furniture casters, and ice-creepers, imported by the manufacturers of such articles, for use exclusively in the manufacture of such articles in their own factories	"	1,631	4,385	3,123	7,859
Steel, No. 24 and 17 gauge, in sheets 63″ long and from 18″ to 32″ wide, when imported by the manufacturers of tubular bow sockets for use exclusively in the manufacture of such articles in their own factories	"	.....	.....	1,565	3,090
Steel springs for the manufacture of surgical trusses, when imported by manufacturers of surgical trusses for use exclusively in the manufacture thereof in their own factories	Lbs.	906	774	2,265	479
Swedish rolled iron, and Swedish rolled steel nail rods, under half an inch in diameter, for the manufacture of horse shoe nails	Cwt.	18,520	39,002	19,208	39,313
Steel seamless tubing valued at not less than 3½ cents per pound	"	330	2,233	1,448	11,758
Steel rolled or drawn square tubing adapted for use in the manufacture of agricultural implements	$	.....	.....	.....	163
Steel or iron tubes, rolled, not joined or welded, not more than 1½″ diameter, N.O.P.	"	.....	7,181	.....	11,459
Seamless steel, or wrought iron boiler tubes, including flues and corrugated tubes for marine boilers	"	.....	415,068	.....	522,90
Steel imported by manufacturers of rifles for use in manufacturing rough parts of rifles, when such parts are to be used in rifles for the Government of Canada	$	.....	.....	.....	4,180
Barbed fencing wire of iron or steel	Cwt.	231,627	567,236	351,576	765,427
Wire, crucible cast steel, valued at not less than 6 cents per pound	Lbs.	10,588	1,830	6,264	1,450
Wire, curved or not, galvanized iron or steel, Nos. 9, 12, and 13 gauge	Cwt.	399,506	858,129	763,538	1,524,742
Wire, steel, valued at not less than 2¾ cents per pound when imported by manufacturers of rope for use exclusively in the manufacture of rope	"	22,120	85,714	34,765	136,715
Totals		.....	7,310,034	.....	10,101,939

IRON.—TABLE 23.

Imports of Iron and Steel into Canada from the United States.*

Material.		Twelve Months ending June 30, 1909.		Twelve Months ending June 30, 1910.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Pig iron	Short tons	34,918	510,813	75,270·7	1,135,509
Scrap and old, fit only for remanufacture	"	14,958·7	205,403	14,071·6	195,316
Bar iron	"	4,161	150,995	5,802·7	216,228
Bars and Rods of Steel—					
Wire rods	"	13,052·6	401,083	27,736	781,335
All other	"	37,473	1,326,158	75,050·9	2,390,235
Billets, ingots, and blooms of steel	"	8,497	185,544	14,395	306,268
Hoop, band, and scroll	"	2,967	144,794	4,617·5	200,655
Steel rails for railways	"	20,049	745,835	30,525·6	801,084
Sheets and plates (iron)	"	15,099	830,634	25,290	1,264,9[illegible]
Sheets and plates (steel)	"	66,219·5	2,965,179	128,277	4,875,466
Sheets and plates (tin plates, terne plates, and taggers tin)	"	3,854	268,410	11,892·6	826,929
Structural iron and steel	"	41,148·8	1,585,137	74,574	2,828,338
Wire (barbed)	"	10,233	493,773	18,202·5	839,818
Wire (all other)	"	26,564	1,169,197	29,950	1,296,835
Nails and Spikes—					
Cut	"	565	23,057	1,097·5	39,085
Wire	"	519	28,324	693·5	37,452
All other, including tacks	"	205	16,000	328	20,021
Pipes and fittings	"	23,319	1,104,434	37,031·9	1,618,181
		332,802·6	12,154,770	574,804·0	19,673,740

*Compiled from "Commerce and Navigation of the United States, 1910." Washington, D.C.

Table continued on next page.

IRON.—TABLE 23—*Continued.*

Imports of Iron and Steel into Canada from the United States.

—		1909.		1910.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Builders Hardware and Tools—					
Locks, hinges, and other builders hardware		.....	893,807	.....	1,272,969
Saws		.....	196,278	.....	203,262
Tools, not elsewhere specified		.....	826,354	.....	1,025,979
Car wheels	No.	8,548	67,123	6,592	66,505
Castings, not elsewhere specified		.....	644,665	.....	904,412
Cutlery—					
Table		.....	15,736	.....	12,226
All other		.....	65,955	.....	109,039
Firearms		.....	240,825	.....	305,016
Machinery, Machines and parts of—					
Cash registers	No.	726	73,263	724	45,260
Electrical machinery		.....	590,152	.....	1,151,449
Laundry machinery		.....	70,618	.....	124,325
Metal working machinery (including metal working machine tools)		.....	214,029	.....	336,172
Mining machinery		.....	501,725	.....	734,631
Printing presses and parts of		.....	300,752	.....	756,493
Pumps, and pumping machinery		.....	317,282	.....	456,358
Sewing machines and parts of		.....	327,696	.....	462,128
Shoes machinery		.....	107,726	.....	228,431
Steam engines and parts of (fire)	No.	1	325	16	7,199
Steam engines and parts of (locomotive)	"	83	363,279	65	247,979
Steam engines and parts of (stationary)	"	3,337	821,498	3,173	840,418
Steam engines and parts of (traction)	"	423	721,373	1,296	2,094,247
Steam engines and parts of (all other engines and parts of engines)	"	.....	657,926	.....	1,366,650
Typewriting machines and parts of		.....	335,237	.....	430,737
Windmills and parts of		.....	45,952	.....	40,041
Wood working machinery		.....	277,467	.....	349,094
All other		.....	5,395,675	.....	7,343,794
Safes	No.	2,009	88,057	2,960	136,684
Scales and balances		.....	137,911	.....	109,181
Stoves, ranges and parts of		.....	448,599	.....	635,900
All other manufactures of		.....	4,504,677	.....	6,357,049
		.....	19,251,962	.....	28,153,628
Total value		.....	31,406,732	.....	47,827,368